

AMENDMENTS TO THE CLAIMS:

The listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently amended) A light producing and monitoring system comprising:

a light producing device from which light is emitted with wavelengths that can range from approximately 700nm to approximately 3 microns ; and

a semi-transparent sensor manufactured on a semi-transparent substrate separate from the light-producing device, the semi-transparent substrate bonded to the light-producing device at a position where the semi-transparent sensor is located in front of the light producing device, at least a portion of the emitted light passes through the semi-transparent sensor and at least a portion of light is absorbed by the semi-transparent sensor, wherein the semi-transparent sensor is configured to be semi-transparent at the wavelength of the emitted light.

2. (Currently amended) The system according to claim 1 wherein the ~~sensor is configured on a semi-transparent substrate~~ is a quartz substrate.

3. (Withdrawn) The system according to claim 2, further including a micro-lens integrated on a surface of the substrate opposite the side on which the sensor is configured, to refocus the light after passing through the sensor, wherein the light emitting device, the sensor and the micro-lens are aligned to permit the emitted light to pass there through.

4. (Withdrawn) The system according to claim 2, further including a lens, configured separate from the sensor and light emitting device, the lens used to refocus the emitted light after passing through the sensor.

5. (Previously presented) The system according to claim 2 wherein the light producing device and the substrate are connected together by a flip-chip process.

6. (Original) The system according to claim 2 wherein the sensor configured on the substrate includes,

a first transparent/conductive electrode layer;

an active sensor element configured on top of the first transparent/conductive electrode; and

a second transparent/conductive electrode layer.

7. (Original) The system according to claim 6 wherein,
the active sensor element is configured of sub-layers
including,

a first sub-layer consisting of at least one of a n+ doped amorphous silicon or an amorphous silicon-germanium compound,

a second sub-layer consisting of at least one of intrinsic amorphous silicon or an amorphous silicon-germanium compound, and

a third sub-layer consisting of at least one of a p+ doped amorphous silicon or an amorphous silicon-germanium compound.

8. (Withdrawn) The system according to claim 7 wherein the semi-transparent sensor further includes,

an anti-reflection coating located on an upper surface of the second transparent/conductive electrode layer.

9. (Withdrawn) The system according to claim 7 wherein the semi-transparent sensor further includes,

an anti-reflection coating located on a lower surface of the first transparent/conductive electrode layer.

10. (Withdrawn) The system according to claim 7 wherein the semi-transparent sensor further includes,

a first multi-layer coating located on an upper surface of the second transparent/conductive electrode layer; and

a second multi-layer coating located on a lower surface of the first transparent/conductive electrode layer,

wherein the first and second multi-layer coatings on the surfaces of the second transparent/conductive electrode layer create a cavity for which an electric field standing wave profile is formed.

11. (Withdrawn) The system according to claim 8 wherein the sensor has a reflectance of light of not more than 0.4% at 850nm.

12. (Withdrawn) The system according to claim 9 wherein the sensor has a reflectance of light of not more than 0.4% at 850nm.

13. (Withdrawn) The system according to claim 10 wherein the sensor has a reflectance of light of not more than 0.4% at 850nm.

14. (Withdrawn) The system according to claim 6 wherein the semi-transparent sensor further includes,

an anti-reflection coating located on an upper surface of the second transparent/conductive electrode layer .

15. (Withdrawn) The system according to claim 6 wherein the semi-transparent sensor further includes,

a first multi-layer coating located on an upper surface of the second transparent/conductive electrode layer;

a second multi-layer coating located on a lower surface of the second transparent/conductive electrode layer,

wherein the first and second multi-layer coatings on the surfaces of the second transparent/conductive electrode layer create a cavity for which an electric field standing wave profile is formed.

16. (Currently amended) A light producing and monitoring system comprising:

a light producing device from which light is emitted with wavelengths that can range from approximately ~~4.4~~ 1.3 microns to approximately ~~4.7~~ 3 microns ;

a semi-transparent substrate;

a semi-transparent sensor configured on a first surface of the semi-transparent substrate including,

a first transparent/conductive electrode layer comprised of at least one of, Indium Tin Oxide, Tin Oxide, Zinc Oxide, or polycrystalline silicon;

an active sensor element is configured of sub-layers including,

a first sub-layer consisting of at least one of a n+ doped amorphous silicon or an amorphous silicon-germanium compound;

a second sub-layer consisting of at least one of intrinsic amorphous silicon or an amorphous silicon-germanium compound; and

a third sub-layer consisting of at least one of a p+ doped amorphous silicon or an amorphous silicon-germanium compound,

a second transparent/conductive electrode layer (~~such as comprised of at least one of, Indium Tin Oxide, Tin Oxide, Zinc Oxide, and or~~ polycrystalline silicon);

the semi-transparent sensor located in front of the light

producing device, such that at least a portion of the emitted light passes through the semi-transparent sensor and at least a portion of light is absorbed by the semi-transparent sensor, and wherein the semi-transparent sensor is configured to be semi-transparent at the wavelength of the emitted light.

17. (Canceled)

18. (Canceled)

19. (New) The system according to claim 2, wherein the substrate includes a micro-lens formed opposite the side on which the sensor is configured, to refocus the light after passing through the sensor, wherein the light emitting device, the sensor and the micro-lens are aligned to permit the emitted light to pass there through.

20. (New) The system according to claim 2, wherein the sensor configured on the substrate includes an anti-reflection coating.